Application No. 10/807,984 Response dated February 20, 2008

Response to Final Office Action of December 14, 2007

IN THE CLAIMS

1. (Currently amended) An organic electroluminescent device comprising an anode, a cathode, and an organic layer arranged between said anode and said cathode, wherein at least a part of said organic layer comprises at least one aminostyrylnaphthalene compound represented by the following formula IAI:

Formula [A]

wherein:

R^a and R^b may be the same or different and each independently represents a substituted or unsubstituted aryl group,

 R^c , R^s , R^s , R^s , R^s , R^h and R^l may be the same or different, at least one of R^c , R^s , R

R^f represents a substituted or unsubstituted, saturated or unsaturated alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, t-butyl, and allyl, a substituted or unsubstituted alicyclic hydrocarbon group, a substituted or unsubstituted aryl group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted or unsubstituted aryl group, a substituted or unsubstituted or unsubstituted aryl group, a substituted or unsubstituted aryl group properties or unsubstituted aryles or unsu

 (Currently amended) The organic electroluminescent device according to claim 1, wherein at least said part of said organic layer comprises at least one aminostyrylnaphthalene compound represented by the following formula [I], [II] or [III]:

Formula [I]

wherein:

R¹ and R² may be the same or different and each independently represents a phenyl group represented by the following formula (1):

Formula (1)

wherein R^6 , R^7 , R^8 , R^9 and R^{10} may be the same or different, at least one of R^6 to R^{10} represents a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom with a proviso that, when at least two adjacent ones of R^6 to R^{10} each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R^6 to R^{10} may be fused together to form a ring, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the remaining one or ones of R^6 to R^{10} , if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom with a proviso that, when at least two adjacent ones of R^6 to R^{10} each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R^6 to R^{10} may be fused together to form a ring, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated

R³ and R⁴ may be the same or different, one of R³ and R⁴ represents a hydrogen atom, a cvano group, a nitro group, a trifluoromethyl group or a halogen atom, and the

remaining one represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and

R⁵ represents a substituted or unsubstituted, saturated or unsaturated alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, n-butyl, i-butyl, i-butyl, and allyl, a substituted or unsubstituted, alicyclic hydrocarbon group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted or unsubstituted, alicyclic hydrocarbyloxy group, or a substituted or unsubstituted, aromatic hydrocarbyloxy group, rbut-R⁵ is not a stylyl.

Formula [II]

wherein:

R¹¹ and R¹² may be the same or different and each independently represents a naphthyl group represented by the following formula (2):

Formula (2)

wherein R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹ and R²² may be the same or different, at least one of R¹⁶ to R²² represents a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one

carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the remaining one or ones of R¹⁶ to R²², if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom,

R¹³ and R¹⁴ may be the same or different, one of R¹³ and R¹⁴ represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and the remaining one represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and

R¹⁵ represents a substituted or unsubstituted, saturated or unsaturated alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, n-butyl, i-butyl, t-butyl, and allyl, a substituted or unsubstituted, alicyclic hydrocarbon group, a substituted or unsubstituted aryl group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted, alicyclic hydrocarbyloxy group, or a substituted or unsubstituted, aromatic hydrocarbyloxy group, -but R¹⁶ is not a stylyl.

Formula [III]

wherein:

R²³ is a phenyl group represented by the following formula (3):

Formula (3)

wherein R^{28} , R^{20} , R^{31} and R^{32} may be the same or different, at least one of R^{28} to R^{31} represents a hydrogen atom, a saturated or unsaturated hydrocarbon group having at

least one carbon atom with a proviso that, when at least two adjacent ones of R²⁶ to R³¹ each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R²⁶ to R³¹ may be fused together to form a ring, a hydrocarbyloxy group having at least one carbon atom, a hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the remaining one or ones of R²⁶ to R³¹, if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom with a proviso that, when at least two adjacent ones of R⁵ to R¹⁰ each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R⁵ to R¹⁰ may be fused together to form a ring, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated hydrocarbyloxy group having at least one carbon atom, a saturated hydrocarbyloxy group having at least one carbon atom, a saturated hydrocarbyloxy group having at least one carbon atom, a saturated hydrocarbyloxy group having at least one carbon atom, a saturated hydrocarbyloxy group

 \mathbb{R}^{24} represents a naphthyl group represented by the following formula (4): Formula (4)

wherein R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁸ and R³⁹ may be the same or different, at least one of R³³ to R³⁹ represents a hydrogen atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the remaining one or ones of R³³ to R³⁹, if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsat

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R²⁵ and R²⁶ may be the same or different, one of R²⁵ and R²⁶ represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and the remaining one represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and

R²⁷ represents a substituted or unsubstituted, saturated or unsaturated alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, n-butyl, i-butyl, i-butyl, n-d allyl, a substituted or unsubstituted, alicyclic hydrocarbon group, a substituted or unsubstituted aryl group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted, alicyclic hydrocarbyloxy group, or a substituted or unsubstituted, aromatic hydrocarbyloxy group, -but R²⁷-is-net a stylyl.

- 3. (Original) The organic electroluminescent device according to claim 1, wherein said organic layer is in a form of an organic multilayer structure comprising a hole transport layer and an electron transport layer stacked one over the other, and at least said electron transport layer in said organic layer comprises at least said one aminostyrylnaphthalene compound.
- 4. (Original) The organic electroluminescent device according to claim 1, wherein said organic layer is in a form of an organic multilayer structure comprising a hole transport layer and an electron transport layer stacked one over the other, and at least said hole transport layer in said organic layer comprises at least said one aminostyrylnaphthalene compound.
- 5. (Original) The organic electroluminescent device according to claim 1, wherein said organic layer is in a form of an organic multilayer structure comprising a hole transport layer, a luminescent layer and an electron transport layer stacked one over another, and at least said luminescent layer in said organic layer comprises at least said one aminostyry/naphthalene compound.

6. (Original) The organic electroluminescent device according to claim 2, wherein said aminostyrylnaphthalene compound is represented by the following formula (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16) or (17):

Formula (5)

wherein R^{40} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{41} has the same meaning as R^5 .

Formula (6)

wherein R^{42} and R^{43} may be the same or different and each independently represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{44} has the same meaning as R^5 .

Formula (7)

wherein R^{45} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{46} has the same meaning as R^{27} .

Formula (8)

wherein R^{47} and R^{48} may be the same or different, one of R^{47} and R^{48} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, the remaining one of R^{52} and R^{53} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{49} has the same meaning as R^{27} .

Formula (9)

wherein R^{50} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{51} has the same meaning as R^{27} .

Formula (10)

wherein R^{52} and R^{53} may be the same or different, one of R^{52} and R^{53} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, the remaining one of R^{52} and R^{53} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{54} has the same meaning as R^{27} .

Formula (11)

wherein R^{55} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{56} has the same meaning as R^5 .

Formula (12)

wherein R^{57} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{58} has the same meaning as R^5 .

Formula (13)

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wherein R^{50} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{50} has the same meaning as R^5 .

Formula (14)

wherein R^{61} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{62} has the same meaning as R^{15} .

Formula (15)

wherein R^{63} and R^{64} may be the same or different, one of R^{63} and R^{64} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, the remaining one of R^{63} and R^{64} represents a saturated or

unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{65} has the same meaning as R^{15} .

Formula (16)

wherein R^{66} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{67} has the same meaning as R^{15} .

Formula (17)

wherein R^{68} and R^{69} may be the same or different, one of R^{68} and R^{69} represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, the remaining one of R^{68} and R^{69} represents a saturated or

unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R^{70} has the same meaning as R^{15} .

7. (Currently amended) An aminostyrylnaphthalene compound represented by the following formula [A]:

Formula [A]

wherein:

R^a and R^b may be the same or different and each independently represents a substituted or unsubstituted aryl group,

 R^c , R^e , R^e , R^e , R^h and R^i may be the same or different, at least one of R^c , R^e , R^e , R^e , R^e , R^e , and R^i independently represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and the remaining one or ones of R^c , R^d , R^e , R^e , R^h and R^i , if any, are each a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and

R^f represents a substituted or unsubstituted, saturated or unsaturated alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, n-butyl, i-butyl, i-butyl, and allyl, a substituted or unsubstituted alicyclic hydrocarbon group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted or unsubstituted or unsubstituted aryl group, a substituted or unsubstituted or unsubstituted aryl group, a substituted or unsubstituted aryl group, a substituted or unsubstituted aryl group, a substituted or unsubstituted aryl group or a substituted or unsubstituted aryl g

8. (Currently amended) The aminostyrylnaphthalene compound according to claim 7, which is represented by the following formula [II, [II]] or [III]:

Formula [I]

wherein:

 R^1 and R^2 may be the same or different and each independently represents a phenyl group represented by the following formula (1):

Formula (1)

wherein R^6 , R^7 , R^8 , R^9 and R^{10} may be the same or different, at least one of R^6 to R^{10} represents a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom with a proviso that, when at least two adjacent ones of R^6 to R^{10} each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R^6 to R^{10} may be fused together to form a ring, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the remaining one or ones of R^6 to R^{10} , if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom with a proviso that, when at least two adjacent ones of R^6 to R^{10} each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R^6 to R^{10} may be fused together to form a ring, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom,

R³ and R⁴ may be the same or different, one of R³ and R⁴ represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and the remaining one represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and

R⁵ represents a-substituted or unsubstituted, saturated or unsaturated alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, n-butyl, i-butyl, i-butyl, and allyl, a substituted or unsubstituted, alicyclic hydrocarbon group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted arkoxyl group, a substituted or unsubstituted or unsubstituted, alicyclic hydrocarbyloxy group, or a substituted or unsubstituted, aromatic hydrocarbyloxy group -but R⁵ is not a stylyl.

Formula [II]

wherein:

R¹¹ and R¹² may be the same or different and each independently represents a naphthyl group represented by the following formula (2):

Formula (2)

$$R^{16}$$
 R^{22} R^{21} R^{16} R^{19} R^{20} R^{17} R^{18} R^{19} R^{20}

wherein R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} and R^{22} may be the same or different, at least one of R^{16} to R^{22} represents a hydrogen atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the remaining one or ones of R^{16} to R^{22} , if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having

at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom,

R¹³ and R¹⁴ may be the same or different, one of R¹³ and R¹⁴ represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and the remaining one represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and

R¹⁵ represents a substituted or unsubstituted, saturated or unsaturated alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, n-butyl, i-butyl, i-butyl, and allyl, a substituted or unsubstituted, alicyclic hydrocarbon group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted alkoxyl group, a substituted or unsubstituted or unsubstituted, alicyclic hydrocarbyloxy group, or a substituted or unsubstituted, aromatic hydrocarbyloxy group -but R¹⁵-is-not-a stylyl.

Formula [III]

wherein:

R²³ is a phenyl group represented by the following formula (3):

Formula (3)

wherein R²⁸, R²⁹, R³⁰, R³¹ and R³² may be the same or different, at least one of R²⁸ to R³¹ represents a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom with a proviso that, when at least two adjacent ones of R²⁸ to R³¹ each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R²⁸ to R³¹ may be fused together to form a ring, a hydrocarbyloxy group having at least one carbon atom, a hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the

remaining one or ones of R^{28} to R^{31} , if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom with a proviso that, when at least two adjacent ones of R^6 to R^{10} each represents a saturated or unsaturated hydrocarbon group having at least one carbon atom, at least said two adjacent ones of R^6 to R^{10} may be fused together to form a ring, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom,

 \mathbb{R}^{24} represents a naphthyl group represented by the following formula (4): Formula (4)

wherein R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁸ and R³⁹ may be the same or different, at least one of R³³ to R³⁹ represents a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom, and the remaining one or ones of R³³ to R³⁹, if any, are each a hydrogen atom, a saturated or unsaturated hydrocarbon group having at least one carbon atom, a saturated or unsaturated hydrocarbyloxy group having at least one carbon atom, a saturated or unsaturated hydrocarbylamino group having at least one carbon atom, a trifluoromethyl group, a cyano group or a halogen atom,

R²⁵ and R²⁶ may be the same or different, one of R²⁵ and R²⁶ represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and the remaining one represents a hydrogen atom, a cyano group, a nitro group, a trifluoromethyl group or a halogen atom, and

R²⁷ represents a hydrogen atom, a substituted or unsubstituted, saturated or unsubstituted, saturated or unsubstituted alkyl group an alkyl selected from the group consisting of methyl, ethyl, n-propyl, i-propyl, i-propyl, i-butyl, i-butyl, t-butyl, and allyl, a substituted or unsubstituted, alicyclic hydrocarbon group, a substituted or unsubstituted aryl group, a substituted or unsubstituted

alkoxyl group, a substituted or unsubstituted, alicyclic hydrocarbyloxy group, or a substituted or unsubstituted, aromatic hydrocarbyloxy group , but R²² is not a stylyl.

9. (Currently amended) The aminostyrylnaphthalene compound according to claim 8, which is represented by the formula (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16) or (17) as defined in claim 6;

Formula (5)

wherein R⁴⁰ represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁴¹ has the same meaning as R⁵.

Formula (6)

wherein R⁴² and R⁴³ may be the same or different and each independently represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁴⁴ has the same meaning as R⁵.

Formula (7)

wherein R⁴⁵ represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁴⁶ has the same meaning as R²⁷.

Formula (8)

wherein R⁴⁷ and R⁴⁸ may be the same or different, one of R⁴⁷ and R⁴⁸
represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a
substituted or unsubstituted aryl group, the remaining one of R⁵² and R⁵³ represents a
saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or
unsubstituted aryl group, and R⁴⁹ has the same meaning as R²⁷.

Formula (9)

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wherein R⁵⁰ represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁵¹ has the same meaning as R²⁷.

Formula (10)

wherein R⁵² and R⁵³ may be the same or different, one of R⁵² and R⁵³
represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a
substituted or unsubstituted aryl group, the remaining one of R⁵² and R⁵³ represents a
saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or
unsubstituted aryl group, and R⁵⁴ has the same meaning as R²⁷.

Formula (11)

wherein R⁵⁵ represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁵⁶ has the same meaning as R⁵.

Formula (12)

wherein R⁵⁷ represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁵⁸ has the same meaning as R⁵.

Formula (13)

wherein R⁵⁰ represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁵⁰ has the same meaning as R⁵.

Formula (14)

wherein R⁶¹ represents a saturated or unsaturated alkyl group having 1 to 6
carbon atoms or a substituted or unsubstituted aryl group, and R⁶² has the same
meaning as R¹⁵.

Formula (15)

wherein R⁶³ and R⁶⁴ may be the same or different, one of R⁶³ and R⁶⁴
represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a
substituted or unsubstituted aryl group, the remaining one of R⁶³ and R⁶⁴ represents a
saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or
unsubstituted aryl group, and R⁶⁵ has the same meaning as R¹⁵.

Formula (16)

wherein R⁶⁶ represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or unsubstituted aryl group, and R⁶⁷ has the same meaning as R¹⁵, or

Formula (17)

wherein R⁸⁸ and R⁸⁹ may be the same or different, one of R⁸⁸ and R⁸⁹
represents a saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a
substituted or unsubstituted aryl group, the remaining one of R⁸⁸ and R⁸⁹ represents a
saturated or unsaturated alkyl group having 1 to 6 carbon atoms or a substituted or
unsubstituted aryl group, and R⁷⁰ has the same meaning as R¹⁵.

10-26. (canceled)

27. (previously presented) The organic electroluminescent device according to claim 2, wherein the at least one aminostyrylnaphthalene compound is represented by formula [i] and:

R⁵ is an alkyl selected from the group consisting of methyl, ethyl, n-propyl, ipropyl, n-butyl, i-butyl, t-butyl, and allyl;

 $$\rm R^{5}$ is an alicyclic hydrocarbon, wherein the alicyclic hydrocarbon group is a cyclohexyl:

 $\ensuremath{\mathsf{R}}^5$ is an aryl selected from the group consisting of phenyl, naphthyl, and anthranyl:

R⁵ is an alkoxyl selected from the group consisting of methoxy, ethoxy, n-propoxy, i-propoxy, n-butoxy, i-butoxy, or t-butoxy;

 $\ensuremath{\mathsf{R}}^5$ is an alicyclic hydrocarbyloxy, wherein the alicyclic hydrocarbyloxy is a cyclohexyloxy; or

 $$\rm R^{5}$ is an aromatic hydrocarbyloxy selected from the group consisting of phenoxy, naphthoxy, and anthroxy.

- 28. (previously presented) The organic electroluminescent device according to claim 2, wherein the at least one aminostyrylnaphthalene compound is represented by formula [II] and:
 R¹⁵ is an alkyl selected from the group consisting of methyl, ethyl, n-oropyl, i-
- propyl, n-butyl, i-butyl, t-butyl, and allyl;
- R¹⁵ is an alicyclic hydrocarbon, wherein the alicyclic hydrocarbon group is a cyclohexyl:
- $$\rm R^{15}$ is an aryl selected from the group consisting of phenyl, naphthyl, and anthranyl;
- R¹⁵ is an alkoxyl selected from the group consisting of methoxy, ethoxy, npropoxy, i-propoxy, n-butoxy, i-butoxy, or t-butoxy;
- $\ensuremath{\mathsf{R}}^{15}$ is an alicyclic hydrocarbyloxy, wherein the alicyclic hydrocarbyloxy is a cyclohexyloxy; or
- R¹⁵ is an aromatic hydrocarbyloxy selected from the group consisting of phenoxy, naphthoxy, and anthroxy.
- 29. (previously presented) The organic electroluminescent device according to claim 2, wherein the at least one aminostyrylnaphthalene compound is represented by formula [III] and:
- R²⁷ is an alkyl selected from the group consisting of methyl, ethyl, n-propyl, ipropyl, n-butyl, i-butyl, t-butyl, and allyl:
- $\ensuremath{\mathsf{R}}^{27}$ is an alicyclic hydrocarbon, wherein the alicyclic hydrocarbon group is a cyclohexvl:
- $\ensuremath{\mathsf{R}}^{27}$ is an aryl selected from the group consisting of phenyl, naphthyl, and anthranyl;
- R²⁷ is an alkoxyl selected from the group consisting of methoxy, ethoxy, n-propoxy, i-propoxy, n-butoxy, i-butoxy, or t-butoxy;
- $\mbox{\sc R}^{27}$ is an alicyclic hydrocarbyloxy, wherein the alicyclic hydrocarbyloxy is a cyclohexyloxy; or
- R^{27} is an aromatic hydrocarbyloxy selected from the group consisting of phenoxy, naphthoxy, and anthroxy.

- 30. (previously presented) The organic electroluminescent device according to claim 8, wherein the at least one aminostyrylnaphthalene compound is represented by formula [I] and:
- R⁵ is an alkyl selected from the group consisting of methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, t-butyl, and allyl;
- $$\rm R^{5}\:$ is an alicyclic hydrocarbon, wherein the alicyclic hydrocarbon group is a cyclohexvI:
- R⁵ is an aryl selected from the group consisting of phenyl, naphthyl, and anthranyl;
- R⁵ is an alkoxyl selected from the group consisting of methoxy, ethoxy, n-propoxy, i-propoxy, n-butoxy, i-butoxy, or t-butoxy;
- R⁵ is an alicyclic hydrocarbyloxy, wherein the alicyclic hydrocarbyloxy is a cyclohexyloxy; or
- $\mbox{\sc R}^5$ is an aromatic hydrocarbyloxy selected from the group consisting of phenoxy, naphthoxy, and anthroxy.
- 31. (previously presented) The organic electroluminescent device according to claim 8, wherein the at least one aminostyrylnaphthalene compound is represented by formula [II] and:
- R¹⁵ is an alkyl selected from the group consisting of methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, t-butyl, and allyl;
- R¹⁵ is an alicyclic hydrocarbon, wherein the alicyclic hydrocarbon group is a cyclohexyl;
- R¹⁵ is an aryl selected from the group consisting of phenyl, naphthyl, and anthranyl:
- R¹⁵ is an alkoxyl selected from the group consisting of methoxy, ethoxy, n-propoxy, n-butoxy, i-butoxy, i-butoxy,
- $$\rm R^{15}$ is an alicyclic hydrocarbyloxy, wherein the alicyclic hydrocarbyloxy is a cyclohexyloxy; or
- $\mbox{\sc R}^{15}$ is an aromatic hydrocarbyloxy selected from the group consisting of phenoxy, naphthoxy, and anthroxy.

- 32. (previously presented) The organic electroluminescent device according to claim 8, wherein the at least one aminostyrylnaphthalene compound is represented by formula [III] and:
- R²⁷ is an alkyl selected from the group consisting of methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, t-butyl, and allyl;
- $\mbox{\sc R}^{27}$ is an alicyclic hydrocarbon, wherein the alicyclic hydrocarbon group is a cyclohexyl;
- $\ensuremath{\mathsf{R}}^{\rm 27}$ is an aryl selected from the group consisting of phenyl, naphthyl, and anthranyl;
- ${\sf R}^{\it zr} \ {\sf is\ an\ alkoxyl\ selected\ from\ the\ group\ consisting\ of\ methoxy,\ ethoxy,\ n-propoxy,\ i-propoxy,\ i-butoxy,\ i-butoxy,\ or\ t-butoxy;}$
- $\ensuremath{\mathsf{R}}^{27}$ is an alicyclic hydrocarbyloxy, wherein the alicyclic hydrocarbyloxy is a cyclohexyloxy; or
- R²⁷ is an aromatic hydrocarbyloxy selected from the group consisting of phenoxy, naphthoxy, and anthroxy.